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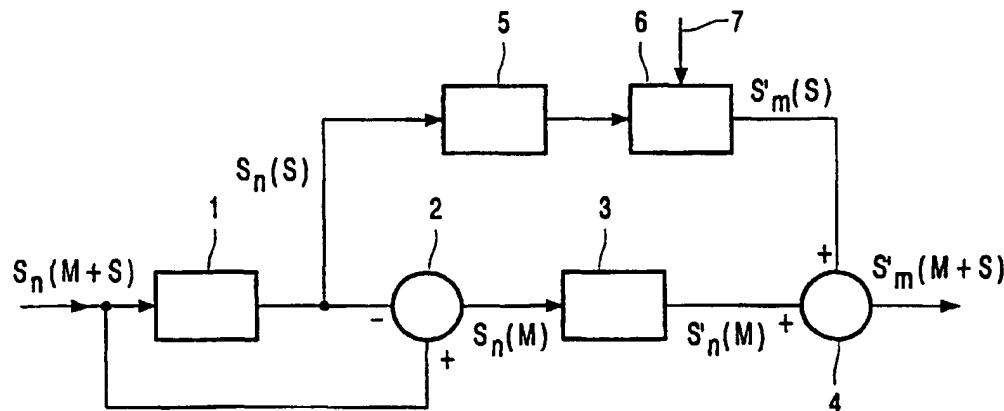
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(72) Inventors: AARTS, Ronaldus, M.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). TOONEN DEKKERS, Robertus, T., J.; Prof. Holstlaan 6, NL-5656 AA For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AUDIO SIGNAL PROCESSING DEVICE



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(57) Abstract: An audio signal processing device comprises signal supply means to supply speech and music signals via one or more input channels. The device further comprises separating means to separate the speech and music signals. First converter means are used to convert the music signals into a required virtual widening from one or more input channels. Combination means are used to combine the speech signals with the converted music signals.

INTERNATIONAL SEARCH REPORT

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PCT/EP 00/12626

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04S1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04S G10L G10K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 09, 30 September 1997 (1997-09-30) & JP 09 114479 A (MATSUSHITA ELECTRIC IND CO LTD), 2 May 1997 (1997-05-02) abstract	1,5
Y	---	2-4
X	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997 (1997-07-31) & JP 09 084198 A (NIPPON COLUMBIA CO LTD), 28 March 1997 (1997-03-28) abstract	1,5
Y	---	2-4
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Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 016, no. 158 (E-1191), 17 April 1992 (1992-04-17) & JP 04 010743 A (NIPPON TELEGR & TELEPH CORP), 14 January 1992 (1992-01-14) abstract -----	2,3
Y	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 11, 26 December 1995 (1995-12-26) & JP 07 222298 A (MATSUSHITA ELECTRIC IND CO LTD), 18 August 1995 (1995-08-18) abstract -----	4

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. onal Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 09114479	A 02-05-1997	NONE	
JP 09084198	A 28-03-1997	NONE	
JP 04010743	A 14-01-1992	JP 2714708 B2	16-02-1998
JP 07222298	A 18-08-1995	NONE	